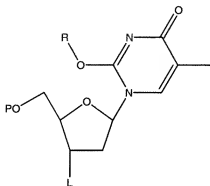


AMENDMENTS TO THE CLAIMS

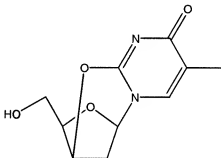
In the Claims, please make the following amendments:

1. (Previously presented) A method for preparing a compound having the following formula:

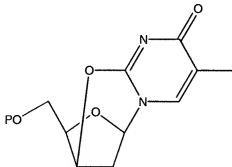


wherein R is an alkoxy blocking group; P is a hydroxyl protecting group; and L is a leaving group, the method comprising the steps of:

a. reacting a compound of the formula:

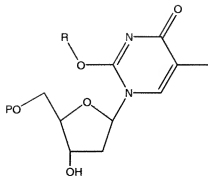


with a hydroxyl protecting group to produce a compound having the following formula:



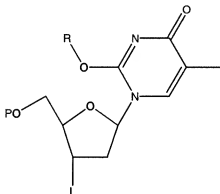
wherein P is the same as defined above;

b. enolating the reaction product of step (a) by reacting the reaction product of step (a) with an alkoxide having 1 to 4 carbons, cycloalkoxide C₃-C₆, phenoxide, tosylate, acetate or benzoate to produce a compound having the following formula:



wherein P and R are the same as defined above; and

c. incorporating a leaving group to produce a compound having the following formula:



2. (Original) The method according to Claim 1, wherein P is selected from the group consisting of methoxymethyl ether, methylthiomethyl ether, 2-methoxyethoxymethyl ether, 1-ethoxyethyl ether, 1-methyl-1-methoxyethyl ether, t-butyl ether, allyl ether, benzyl ether, 4-nitrobenzyl ether, o-nitrobenzyl ether, trityl ether, monomethoxytrityl ether, dimethoxytrityl ether, tritylone ether, tetrahydropyran ether, tetrahydrothiopyranyl ether, 4-methoxy tetrahydropyran ether, 4-methoxytetrahydrothiopyranyl ether, tetrahydrofuran ether, tetrahydrotrifuranyl ether, isobutyrate ester, pivaloate ester, adamantate ester, benzoate ester, 2,4,6-trimethylbenzoate ester, methyl carbonate, allyl carbonate, benzyl carbonate, p-nitrobenzyl carbonate, t-Bu carbonate, S-benzylthio carbonate, N-phenyl carbamate, and nitrate ester.

3. (Original) The method according to Claim 1, wherein P is selected from the group consisting of dimethoxytrityl, monomethoxytrityl, trityl, t-butyloxycarbonyl, t-butyldimethylsilyl, t-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, and 1-methyl-1-methoxyethyl ether.

4. (Original) The method according to Claim 1, wherein R is alkyl C₁-C₄, *i*-propyl, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate.
5. (Original) The method according to Claim 1, wherein R is methyl, ethyl, *i*-propyl, benzyl, or cycloalkane C₃-C₆.
6. (Cancelled).
7. (Previously presented) The method according to Claim 1, wherein the alkoxide is sodium methoxide.
8. (Original) The method according to Claim 1, wherein L is a sulfonate ester.
9. (Original) The method according to Claim 1, wherein L is selected from the group consisting of mesylate, nosylate, tosylate, and triflate.
10. (Previously presented) A method for preparing a precursor for the preparation of a radiolabeled nucleoside comprising:
- a. converting a 2-deoxy nucleoside into a 2,3'-anhydronucleoside;
 - b. reacting the 2,3'-anhydronucleoside with a hydroxyl protecting group to produce a 2,3'-anhydronucleoside derivative wherein the 5'-O group is protected;
 - c. reacting the protected 2,3'-anhydronucleoside derivative with an alkoxide that opens the 2,3'-anhydro-ring and enolates the 2-position on the pyrimidine ring; and
 - d. incorporating a leaving group to produce the radiolabeled nucleoside precursor;
- where the nucleoside base is thymidine or uridine.
11. (Previously presented) The method according to Claim 10, wherein the nucleoside is thymidine or uridine.
12. (Previously presented) A method for preparing a precursor for the preparation of 3'-Deoxy-3'-[¹⁸F]-fluoro-thymidine (¹⁸F-FLT) comprising:
- a. converting thymidine into 2,3'-anhydrothymidine;
 - b. reacting the 2,3'-anhydro thymidine with a hydroxyl protecting group to produce a 2,3'-anhydrothymidine derivative wherein the 5'-O group is protected;

c. reacting the protected 2,3'-anhydrothymidine derivative with an alkoxide that opens the 2,3'-anhydro-ring and enolates the 2-position on the pyrimidine ring; and

d. incorporating a leaving group to produce the ^{18}F -FLT precursor.

13. (Original) The method according to Claim 12, wherein step (c) produces an enol having an $-\text{O}-\text{R}$ group attached to the 2-carbon.

14. (Previously presented) A method according to Claim 13, wherein R is alkyl $\text{C}_1\text{-C}_4$, cycloalkane $\text{C}_3\text{-C}_6$, or phenyl.

15. (Cancelled).

16. (Previously presented) A method according to Claim 12, wherein the alkoxide is selected from the group consisting of sodium methoxide, and sodium ethoxide.

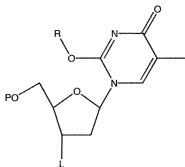
17. (Original) A method according to Claim 12, wherein the hydroxyl protecting group is dimethoxytrityl, monomethoxytrityl, trityl, t-butyloxycarbonyl, t-butyldimethylsilyl, t-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranlyl ether, ethoxyethyl ether, or 1-methyl-1-methoxyethyl ether.

18. (Original) A method according to Claim 12, wherein the hydroxyl protecting group is dimethoxytrityl, monomethoxytrityl, or trityl.

19. (Original) A method according to Claim 12 wherein the leaving group is a sulfonate ester.

20. (Original) A method according to Claim 19, wherein the leaving group is mesylate, tosylate, nosylate, or triflate.

21. (Previously presented) A compound having the following formula:



wherein R is alkyl C₁-C₄, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate; P is a hydroxyl protecting group selected from the group consisting of methoxymethyl ether, methylthiomethyl ether, 2-methoxyethoxymethyl ether, 1-ethoxyethyl ether, 1-methyl-1-methoxyethyl ether, t-butyl ether, allyl ether, benzyl ether, 4-nitrobenzyl ether, o-nitrobenzyl ether, trityl ether, monomethoxytrityl ether, dimethoxytrityl ether, tritylone ether; tetrahydropyran ether, tetrahydrothiopyranyl ether, 4-methoxy tetrahydropyran ether, 4-methoxytetrahydrothiopyranyl ether, tetrahydrofuran ether, tetrahydrotriofuranyl ether, isobutyrate ester, pivaloate ester, adamantate ester, benzoate ester, 2,4,6-trimethylbenzoate ester; methyl carbonate, allyl carbonate, benzyl carbonate, p-nitrobenzyl carbonate, t-Bu carbonate, *S*-benzylthio carbonate, *N*-phenyl carbamate, nitrate ester, t-butyloxycarbonyl, t-butyldimethylsilyl, and t-butyldiphenylsilyl; and L is a leaving group.

22. (Original) A compound according to Claim 21, wherein R is methyl or ethyl.

23-24. (Cancelled)

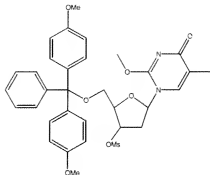
25. (Original) A compound according to Claim 21, wherein P is dimethoxytrityl.

26. (Original) A compound according to Claim 21, wherein L is a sulfonate ester.

27. (Original) A compound according to Claim 21, wherein L is selected from the group consisting of p-(2,4-dinitroanilino)benzenesulfonyl, benzenesulfonyl, methylsulfonyl (mesylate), p-methylbenzenesulfonyl (tosylate), 4-nitrobenzene sulfonyl (nosylate), p-bromobenzenesulfonyl, trifluoromethylsulfonyl (triflate), trichloroacetimidate, acyloxy, 2,2,2-trifluoroethanesulfonyl, imidazolesulfonyl, and 2,4,6-trichlorophenyl.

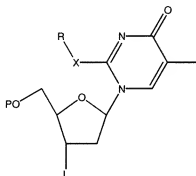
28. (Original) A compound according to Claim 21, wherein R is methyl, P is dimethoxy trityl, and L is mesylate, tosylate, or nosylate.

29. (Original) A compound having the following formula:



wherein Ms is methylsulfonyl.

30. (Previously presented) A compound having the following formula:



wherein R is alkyl C₁-C₄, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate; P is a hydroxyl protecting group selected from the group consisting of dimethoxytrityl, monomethoxytrityl, trityl, t-butyloxycarbonyl, t-butyldimethylsilyl, t-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, and 1-methyl-1-methoxyethyl ether; X is oxygen, sulfur, or nitrogen, and L is a leaving group.

31. (Original) A compound according to Claim 30, wherein L is halogen, p-(2,4-dinitroanilino)benzenesulfonyl, benzenesulfonyl, methylsulfonyl (mesylate), p-methylbenzenesulfonyl (tosylate), 4-nitrobenzene sulfonyl (nosylate), p-bromobenzenesulfonyl, trifluoromethylsulfonyl (triflate), trichloroacetimidate, acyloxy, 2,2,2-trifluoroethanesulfonyl, imidazolesulfonyl, or 2,4,6-trichlorophenyl.

32-34. (Cancelled)